Amendment and Response to Office Action

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Claims Listing

1. (Currently amended) A method for applying a reactive epoxy containing coating to a substrate, said method comprising subjecting said substrate to a pulsed plasma discharge in the presence of a <u>polymerizable epoxy monomer compound</u> of formula (I) or (IA)

where R^1 or R^{1a} is a hydrocarbyl group, optionally substituted by a halo group, or a heterocyclic group;

R² is a straight or branched alkylene chain, optionally substituted by a halo group; and Y is oxygen or a bond,

such that polymer growth occurs on a surface of the substrate, wherein the pulsed plasma discharge is achieved by applying a power pulse to the plasma, each applied power pulse having a power off time of from 10,000 to 20,000 μs and wherein an average power density of the pulsed plasma discharge is less than 0.05 0.0025 W/cm³.

2. (Currently amended) A method according to claim 1 wherein the polymerizable epoxy monomer epoxy containing organic compound is a compound of formula (II)

$$R^1$$
 O
 $(CH_2)_n$
 O
 (II)

where R^1 is as defined in claim 1 and n is an integer of from 1 to 20.

- 3. (Previously Presented) A method according to claim 2 wherein, in the compound of formula (II), n is 1 to 3.
- 4. (Previously Presented) A method according to claim 3 wherein the compound of formula (II) is a compound of formula (III)

where R^3 , R^4 and R^5 are independently selected from hydrogen or $C_{1\text{-}6}alkyl$.

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5-6. Cancelled.

7. (Previously Presented) A method according to claim 1 wherein the pulsed

plasma discharge is applied such that power is on for 20µs and off for from 10000µs to

20000μs.

8. (Withdrawn) A substrate having an epoxy containing coating thereon,

obtained by a process according to claim 1.

9-11. Cancelled.

12. (Previously Presented) A method for immobilisation of a nucleophilic reagent

at a surface, said method comprising the application of a reactive epoxy containing coating

to said surface by a method according to claim 1, and then contacting the surface with a

solution of said nucleophilic reagent under conditions such that the nucleophilic reagent

reacts with the epoxy groups.

13. (Withdrawn) A method for adhering two surfaces together, said method

comprising applying a reactive coating to at least one of said surfaces by plasma

deposition, and contacting said surface with the other surface under conditions whereby

reactive groups in the coating will react so as to secure the two surfaces together.

14. (Withdrawn) A method according to claim 13, wherein the applying of the

reactive coating to at least one of the said surfaces is performed using a method according

to claim 1.

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15. (Withdrawn) A method according to claim 13 comprising the applying of a

reactive coating to both said surfaces by plasma deposition, introducing a coupling agent

between said surfaces, and allowing said coupling agent to react with reactive groups on

each surface.

16. (Withdrawn) A method according to claim 15 wherein the reactive groups

are epoxide groups.

17. (Withdrawn) A method according to claim 15 wherein said coupling agent is

a diamine.

18. (Withdrawn) A method according to claim 13 wherein said other surface

includes nucleophilic groups able to react with said reactive groups so as to bring about

adhesion.

19. (Withdrawn) A method according to claim 18 wherein said nucleophilic

groups are selected from amino or carboxylic acid groups.

20. (Withdrawn) A method for applying a reactive epoxy containing coating to a

substrate substantially as hereinbefore described with reference to example 1.

21. (Previously Presented) The method of Claim 12, wherein the nucleophilic

reagent is a carboxylic acid or amine.

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